



#7 \$2155

PATENT APPLICATION
Docket No.: 3003.2.9A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Sanchaita Datta and Ragula Bhaskar
Serial No.: 10/034,197
Filed: December 28, 2001
For: COMBINING CONNECTIONS FOR PARALLEL ACCESS
TO MULTIPLE FRAME RELAY AND OTHER PRIVATE
NETWORKS

PETITION FOR SPECIAL EXAMINING PROCEDURE
(Accelerated Examination Of New Application)

The Honorable Commissioner of
Patents & Trademarks
Washington, D.C. 20231

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Commissioner:

Pursuant to M.P.E.P. § 708.02 VIII, Applicants and Assignee respectfully petition the Office for accelerated examination of the above-identified patent application.

As required, a statement regarding pre-examination search and a detailed discussion of references are submitted below. Copies of the references identified in the search and deemed most closely related to the subject matter encompassed by the claims were filed in a First Information Disclosure Statement on 29 April 2002. Additional IDSs have been filed (on March 14, 2003, April 9, 2003, and April 11, 2003), and the references submitted therein are also discussed below.

If the Office determines that the claims should be made subject to a restriction requirement, an oral election of claims to be initially examined will be made without traverse.

Pre-examination Search

A pre-examination search was made both for relevant patents and for relevant non-patent references, including an online search that used keyword-driven search engines with

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key words and phrases such as “frame relay”, “point-to-point”, “status”, “path”, “NNI”, “network-to-network”, “UNI”, “clouds”, “networks”, “multiple”, “carriers”, “reliab”, “load balanc”, “multi-hom”, “parallel”, “concurrent”, “BGP”, “ISDN”, “disaster”, “backup”, “outage”, “Exodus”, “Sprint”, “MCI”, and “AT&T”.

With respect to U.S. patents, the classes and subclasses of patents identified in the search are as follows:

<u>Class</u>	<u>Sub-class(es)</u>
370	60, 218, 465
709	200, 224, 237

Detailed Discussion of the References

Several points should be noted in connection with the references. First, some of the claimed subject matter was used to guide the search. It does not follow from the mere fact that certain references are listed here that one of ordinary skill in the art would have combined these or similar references without the benefit of seeing the claims. In the event it makes a rejection under § 103 using these or any other references, the Office must identify a suggestion or motivation in the art for combining the references.

Second, the discussion below tries to be both complete and concise. By necessity, however, the discussion rests on a good-faith prediction as to which topics the Office will find of interest in examining this application. All participants in the examination process are free to decide later that other aspects of these references and/or other references also merit attention. Of course, the Office will also notify Applicants if examination indicates that the claims and/or references should be interpreted or characterized in some way different from that now presented.

Third, the pre-examination search is not a substitute for the Examiner’s search. Likewise, the information provided here is meant to be an aid to the Examiner; it is not meant to be a substitute for the Examiner’s own independent review and analysis of the references. In particular, the fact that some of the references discussed below are

emphasized more than the other references does not imply that the Examiner's review of the other references will be cursory or non-existent. Although the information given here is believed to be accurate, errors may nonetheless be present. Also, points whose significance is not currently understood may be discussed here inadequately or not at all.

Fourth, to promote conciseness this initial discussion of the patentability of the claims focuses on certain features of the independent claims. However, other features and combinations of features in both the independent claims and the dependent claims also provide proper grounds for allowing the claims. A lack of patentability will not automatically follow from some later determination (either before or after issuance) that the claim features discussed expressly below are insufficient. Each claim must be viewed as a whole.

Fifth, the technical background of the invention is also discussed in the Technical Background of the Invention portion of the application, and that discussion is incorporated herein by this reference.

Sixth, citation of a reference does not imply adoption of all definitions given in the reference, or agreement with all assertions made in (or implied from) the reference. In particular and without limitation, terms may be used differently in a reference than in the present application; in the event of a conflict, the meaning given to a term (expressly or implicitly) in the application and/or in other statements by Assignee should govern.

Seventh, the dates in reference citations are merely presumptions based on copyright notices, retrieval dates, and/or similar indicia. A document's actual publication date, for instance, may be different than the date printed on the document. Indicia in a single document may specify multiple dates, or a range of dates, with only some of the dates qualifying the document as prior art. A document may also be submitted, even though submission is not required because the document's stated date makes it presumptively not prior art, if the document contains information that might be helpful, such as technical background or a discussion of work that may have been done earlier than the document's stated date.

Finally, a failure to expressly state here that a given reference does not teach a certain claim element does not mean that the reference teaches the claim element. If the Office takes the position that a claim element is taught by reference, then the Office must identify to Assignee the location(s) in the reference which support that position.

Datta 837: U.S. Patent Application No. 10/361,837 filed February 7, 2003

The inventors on this patent application are the same as in the present application. This reference was made of record in the IDS filed on March 14, 2003. It is a continuation-in-part of the present application. The Datta '837 application may be of interest to the Examiner as background information and/or for other reasons. For instance, although the undersigned does not believe this reference would support an obviousness-type double patenting rejection of the current application, or vice versa, the Office will make its own independent initial decision regarding that possibility. References discussed here are also discussed in a petition to accelerate examination of the '837 application. **If this reference is not cited** after this specific invitation to consider the Datta '837 reference, it will be understood that the Examiner has determined the reference is not a basis for rejection.

Casey: U.S. Patent No. 6,493,349 to Casey

This reference discusses a virtual private network infrastructure and a method of configuring such an infrastructure. To the undersigned, the most pertinent teachings of this reference appear to be its teachings about partitioning a provider's shared network infrastructure to form VPN areas, because partitioning a network into areas may raise the question of how those areas are combined, if at all. If they are combined in a parallel manner, rather than a serial manner or not combined at all, then at least some concept of network parallelism would be present. VPN areas are discussed, for instance, at column 3 line 27 through column 4 line 26. However, this discussion does not appear to the undersigned to teach the claimed combinations of parallel networks, much less the claimed limitations directed to parallel private networks and a packet path selector.

Note that "private network" as used in the present application refers to frame relay and point-to-point networks (see the application at page 2 lines 3-4), whereas "private network" as used in Casey apparently refers to customer sites (column 1 lines 22-24). Applicants are entitled to be their own lexicographers, and any confusion over this (or other) terminology used in the application should be resolved in favor of the meaning intended by Applicants even if that meaning conflicts with other possible meanings.

Datta 341: U.S. Patent No. 6,493,341 to Datta et al.

The inventors of this patent are the same as in the present application. This reference was made of record in the IDS filed on April 9, 2003. It claims priority to provisional application no. 60/174,114 filed on December 31, 1999. This patent may be of interest to the Examiner as background information and/or for other reasons. For instance, although the undersigned does not believe this reference would support an obviousness-type double patenting rejection of the current application, or vice versa, the Office will make its own independent initial decision regarding that possibility. **If this reference is not cited** after this specific invitation to consider the Datta '341 reference, it will be understood that the Examiner has determined the reference is not a basis for rejection.

Halpern: U.S. Patent No. 6,438,100 to Halpern et al.

This reference apparently deals mainly with routing inside a Carrier Scale Internetworking system. Frame relay is mentioned in column 2 lines 10-29, 47, and at column 6 line 30. This reference has some discussion of VPNs, e.g., in column 6 lines 14-40, so the remarks made above about the meaning of "private network" in discussing the Casey reference may also be noted here. A keyword search of this reference failed to disclose any use of "parallel" and the reference accordingly does not appear to the undersigned to teach the claimed access to parallel networks.

Rekhter: U.S. Patent No. 6,339,595 to Rekhter et al.

This reference deals with virtual private networks (VPNs), so the remarks made above about the meaning of “private network” in discussing the Casey reference may also be noted here. A keyword search of this reference failed to disclose any use of “frame relay” but there are several instances of “point-to-point”. Only a single instance of “parallel” was found, at column 4 line 3. This reference does not appear to the undersigned to teach the claimed access to parallel networks using a packet path selector to select between parallel frame relay or point-to-point networks.

Datta 276: U.S. Patent No. 6,295,276 to Datta et al.

The inventors of this patent are the same as in the present application. As indicated in the Abstract, this patent describes methods, configured storage media, and systems for increasing bandwidth between a local area network (“LAN”) and other networks by using multiple routers on the given LAN; Figures 2 and 3 each show a configuration with multiple routers in parallel. Data packets are multiplexed between the routers using a novel variation on the standard address resolution protocol, and other components. On receiving data destined for an external network, a controller or gateway computer will direct the data to the appropriate router. In addition to providing higher speed connections, the invention described in the ‘276 patent provides better fault tolerance in the form of redundant connections from the originating LAN to a wide area network such as the Internet.

The invention described in the present application is directed to configurations involving parallel private networks, e.g., “multiple independent private networks in a parallel network configuration” (independent claim 1), “multiple parallel private networks” (independent claim 13), “multiple independent parallel frame relay networks” (independent claim 19). Although the ‘276 invention might be usable in a parallel network configuration, that particular type of use is not required by, nor discussed in, the ‘276 patent.

Von Hammerstein: U.S. Patent No. 6,292,495 to Von Hammerstein et al.

As indicated in the Abstract, this patent discusses an apparatus and method for communicating link status information for permanent virtual circuits that share a data link connection identifier. A first frame relay packet that includes link status information for a plurality of virtual circuits that each share a first data link connection identifier is received via a frame relay network. Using the link status information in the first frame relay packet, a second frame relay packet that conforms to a standard local management interface status message format is generated. The second frame relay packet is transmitted to customer premise equipment.

As noted above, each independent claim of the present application requires parallel private networks. At column 1 lines 47-51, the '495 patent refers in passing to use of a router to interconnect a LAN to "several different networks." However, a keyword search of the '495 patent failed to find any instances of "parallel" and the reference accordingly does not appear to the undersigned to teach the claimed access to parallel networks.

Bhaskar: U.S. Patent No. 6,253,247 to Bhaskar et al.

The inventors of this patent are the same as in the present application. As indicated in the Abstract, this patent describes methods and systems for transmitting a user's data between two computer networks over physically separate telephone line connections which are allocated exclusively to the user. The user's data is placed in data packets, which are multiplexed onto the separate connections and sent concurrently to a demultiplexer. The data packets contain a computer network address such as an Internet protocol address. A dynamic address and sequence table allows the demultiplexer operation to restore the original order of the data after receiving the packets. The set of connections constitutes a virtual "fat pipe" connection through which the user's data is transmitted more rapidly. Additional users may be given their own dedicated "fat pipe" connections.

As noted above, each independent claim of the present application assumes parallel private networks are involved; the invention is not those networks themselves, but it does

provide tools and techniques for controlling access to parallel private networks. Although the '247 invention might be usable in a parallel network configuration, that particular type of use is not required by, nor discussed, in the '247 patent.

Estberg: U.S. Patent No. 6,148,337 to Estberg et al.

As indicated in the Abstract, this patent discusses a Mid-Level Manager (MLM) network information management system that monitors and manipulates the flow of private information on public networks. As discussed, the MLM system begins by retrieving and storing information about subscribers to the public networks. The MLM also queries the computers of the public networks to obtain information about network configuration and status. Upon receiving network information, the MLM system uses the stored subscriber information to analyze the network information and to determine the subscribers to which the network information pertains. If network information pertains to a subscriber and the subscriber is authorized to receive that information, the MLM system adds that network information to a subscriber-specific data storage location. In addition, network status information of interest to administrators of the public network is stored in a separate data storage location. The MLM system supplies the subscriber-specific network information to subscribers to allow them to monitor their networks in a real-time manner, ensuring that a subscriber receives only that information for which they are authorized and that only authorized parties will receive a subscriber's private data. The MLM system also provides the current network status information to public network administrators. Subscribers are also allowed to manipulate their flow of information, such as by changing the bandwidth on a PVC, in a real-time manner. The MLM system handles requests from subscribers to modify their levels of MLM service or their levels of service provider's public network service, and takes appropriate action to effect the change.

As noted above, each independent claim of the present application presupposes the presence of parallel private networks. At column 1 lines 52-56, the '337 patent states that "two or more private networks connected over a public network is referred to as a Virtual

Private Network (VPN)....” Text starting at column 7 line 61 discusses “an environment with two Virtual Private Networks (VPNs) and two public networks operated by service providers.” However, a keyword search of the ‘337 patent failed to find any instances of “parallel”. It also appears to the undersigned from the discussion in column 8 lines 3-6 and 37-45 that the networks 130 and 170 shown in Figure 1 are in series, not in parallel.

Feldman: U.S. Patent No. 6,055,561 to Feldman et al.

As indicated in the Abstract, IP based networks use a number of different IP routing protocols to determine how packets ought to be routed. However, due to the rapid growth of the Internet, there is a great need for higher packet forwarding performance. This patent discusses a way to map IP routing information onto a technology that uses label switching and swapping, such as ATM, without the need to change the network paradigm. This allows a network to continue to function and appear as a standard IP network, but with much higher performance. An Integrated Switch Router (ISR) is a switch that has been augmented with standard IP routing support. The ISR at an entry point to the switching environment performs standard IP forwarding of datagrams, but the “next hop” of the IP forwarding table has been extended to include a reference to a switched path (for example, the VCC in ATM technology). Each switched path may have an endpoint at a neighboring router (comparable to existing IP next hops on conventional routers), or may traverse a series of ISRs along the best IP forwarding path, to an ISR endpoint. This allows datagrams to be switched at hardware speeds through an entire ISR network.

As noted above, each independent claim of the present application requires parallel private networks. However, a keyword search of the ‘561 patent failed to find any instances of “parallel”.

Kitai: U.S. Patent No. 5,948,069 to Kitai et al.

As indicated in the Abstract, this reference discusses a networking method and system for performing data communication to a client computer from a server computer

having a plurality of network interfaces through a network. A LAN switch is provided between the network and the server computer. The LAN switch includes a plurality of communication paths correspondingly connected to the network interfaces of the server computer. Any one of the communication paths are usable to connect the client computer with the server computer. A selector is provided for selecting one of the communication paths in accordance with a quality of service (QOS) requested by the client computer. The selector selects the communication path using information contained in a routing table in the server computer based on a network address of the network connected to the client computer. The routing table includes the address of the network connected to the client computer and addresses of network interfaces of the server computer correspondingly connected to the communication path.

However, a keyword search of this reference disclosed no instances of “frame relay”, “point-to-point”, “T1”, or “T3”. Although Kitai appears to the undersigned to be one of the references that is closest to the present invention, analysis by the Examiner is called for at this point to determine whether these or other differences or similarities merit further attention. Figure 3 may be of particular interest, since it shows two public networks 3070 and 3080 on what are apparently parallel communication paths between a client 3101 and a server 3000. It may also be important that the choice between network interfaces in Kitai is apparently made at the server (see, e.g., column 10 lines 13-65) rather than elsewhere; the present claims refer to a “site interface”. In view of all this, the Examiner is specifically requested to **perform a detailed comparison of Kitai with the pending claims**, and to then take such action as the Examiner deems appropriate.

Periasamy: U.S. Patent No. 5,737,526 to Periasamy et al.

This reference discloses a hierarchical wide area network architecture in which multiple routers having a logical connection to one another are designated as a peer group. Column 3 states that more than one border peer can be included in each group, to share the transmission workload and act as a backup. In another statement (column 3 lines 16-23),

two or more routers are connected to a network in parallel to provide back-up facilities. When both of the routers are operating, conditional filters cause one of the routers to drop selected network frames, which are handled by the other router to avoid duplicate frames.

A keyword search revealed no instance of “frame relay”, no instance of “point-to-point”, one instance of “T1” (column 5 line 55), and no instances of “T3”. The parallelism taught is apparently parallelism of routers, not of networks.

Iliev: U.S. Patent No. 5,459,720 to Iliev et al.

As indicated in the Abstract, this patent discusses a system including device access, network access system management, and related method for providing users who have aperiodic high bandwidth data transmission requirements between remote sites with access over a public switched digital network. The system uses a scheme of inverse multiplexing by which it first logically splits a high bandwidth information stream into multiple narrow band signals for transmission through a public switched digital network over a plurality of narrow band channels to be received at the remote location by another Switched Network Access System then recombined to form the original high bandwidth information stream causing the multiple narrow band channels to appear as a single high bandwidth channel to remote high bandwidth end users. The Switched Network Access System provides automatic bandwidth allocation and agility which optimizes throughput and reduces data communications costs by adding or dropping narrow band channels “as needed” based on user bandwidth utilization.

As noted above, each independent claim of the present application requires parallel private networks. However, a keyword search of the ‘720 patent failed to find any instances of “parallel”. The following statement is made at column 3 lines 11-15: “A further object of the present invention is to simplify internetworking between LANs, terminals and workstations by providing concurrent WAN connections and inverse multiplexing across a plurality of network services and network carriers.” The term “concurrent” may imply “parallel”, and the present application discusses concurrency at, e.g., page 11 lines 3-10

and page 18 lines 13-17. However, Figure 1 of Iliev shows a single network 103, not multiple networks in parallel. Moreover, the text of this reference refers repeatedly to transmission through “a” network, which implies one network; see, e.g., column 2 lines 21-22, 43, 51-52, 63; column 3 line 30; and the preambles in each of claims 1, 6, 18, 24, 30.

Perlman: U.S. Patent No. 5,420,862 to Perlman

This reference discloses a “bridge router (brox)” which functions as a bridge under some conditions and as a router under other conditions. As illustrated in Figure 8, for instance, the broxes connect LANs. However, keyword searches of this reference failed to find any instances of “parallel”, “frame relay”, “T1”, or “T3”.

Derby: U.S. Patent No. 5,398,012 to Derby et al.

This reference discloses a process for determining the best communication route from a source end station to a destination end station, using network nodes at the interface between a wide area network and each sub-network. The network nodes contain access agents which control communication flow between the wide area network and an end station in the sub-network.

This reference discusses “parallel links” and “parallel transmission groups”, e.g., at column 1 line 43, column 2 lines 48-55. Keyword searching revealed no instance of “frame relay”, but “point-to-point” occurs at column 5 line 31, column 7 line 49, column 8 lines 18-20, and column 9 line 43. It also discusses a route selection apparatus, see, e.g., claim 1, for use with subnetworks, which the Examiner may consider different from the claimed invention’s selection between parallel networks. Although Derby appears to the undersigned to be one of the references that is closest to the present invention, analysis by the Examiner is called for at this point to determine whether these or other differences or similarities merit further attention. The Examiner is specifically requested to **perform a detailed comparison of Derby with the pending claims**, and to then take such action as the Examiner deems appropriate.

LinkProof: “radware LinkProof Internet Link Traffic Management”, pp. 1-4, copyright date 2000

This reference discusses traffic management for multi-homed networks. Page 2 states that patent pending Optimal Content Routing considers the real-time load, among other factors, that “LinkProof automatically detects failures”, and that it redirects traffic through the optimal links. A drawing on page 3 shows three routers which are apparently in parallel. However, this reference does not appear to the undersigned to teach access to parallel networks as called for by the present invention.

Navpoint: “Navpoint Internet Dedicated Internet Service”, pp. 1-3, copyright date 2000

This reference discusses frame relay, point-to-point, and ISDN networks, but it does not appear to the undersigned to teach access to parallel networks as called for by the present invention.

NxT1: “Selling Brief: NxT1 Connectivity”, pp. 1-2, copyright date 2001

This reference mentions frame relay and point-to-point networking, load distribution, and dynamic link removal/restoration for increased reliability, but it does not appear to the undersigned to teach access to parallel networks as called for by the present invention.

Guide: “The Basic Guide to Frame Relay Networking”, pp. 1-85, copyright date 1998

This reference discusses frame relay networks in depth. Point-to-point and other network technologies are also discussed. However, this reference does not appear to the undersigned to teach selection between parallel networks as called for by the present invention. A keyword search reveals that the word “parallel” is used only in connection with the example shown in Figure 13 on page 51 of the reference. That figure shows “Parallel SNA, BSC, Alarm and LAN Branch networks”, as opposed to parallel frame relay

networks. Figure 13 also fails to show a packet path selector. Moreover, the parallel nature of the SNA, BSC, and LAN networks is characterized as undesirable; one obtains “better performance, greater reliability and lower costs” by consolidating the data from these networks onto one frame relay-based WAN. By teaching away from parallelism, this reference teaches away from the present invention.

Cross-fire: “Frame relay NNIs in the cross-fire”, pp. 1-2, 11/22/99

This reference discusses frame relay network-to-network interfaces (NNIs). As indicated in the reference, NNIs are used for connecting networks in series, not in parallel. An NNI may be used, for instance, to connect a local carrier’s frame relay net to a long distance carrier’s net. There is a statement at the bottom of page 1 that “AT&T will assist users to put two separate routers on each site – one for each carrier’s frame relay network – each attached to the LAN.” This apparently refers to a configuration like that shown as prior art in Figure 1 of the present application. This reference does not appear to the undersigned to teach selection between parallel networks as called for by the present invention.

NNI & UNI: “NNI & UNI”, pp. 1-2, Nov 16, 2001

This reference gives a definition for a network-to-network interface (NNI) and a definition for a user-to-network interface (UNI). It does not appear to the undersigned to teach parallel networks.

Cisco Adapter: “Cisco Four-Port Channelized E1 Frame Relay Port Adapter...”, pp. 1-3, Jul 3, 2000

This reference discusses frame relay UNI and NNI interfaces. It does not appear to the undersigned to teach parallel networks.

Cisco pages: Frame Relay pages from www.cisco.com, pp. 1-8, Sep 21, 1999

This reference discusses frame relay networks. Page 5 discusses a multiplexer with both frame relay and non-frame relay interfaces. A keyword search of the reference failed to find any use of “parallel”.

Pages 5-6 discuss frame relay networks provided by public carriers, and so-called “private Frame Relay networks”. Confusion may be avoided by noting that the present application uses the term “private network” to include both frame relay networks and point-to-point networks, and that frame relay (private) networks may be provided by public carriers such as AT&T, Qwest, XO, and MCI WorldCom; see page 2 of the application. A network which is “private” in the application’s sense may be either a private frame relay network or a public frame relay network according to this reference. Note also that a private network in the application’s sense need not be a frame relay network at all; it may be a point-to-point network.

Protocol Directory: “Protocol Directory - Frame Relay”, pp. 1-14, no later than 12/7/2001

This reference discusses frame relay network protocols. A keyword search of the reference failed to find any use of “parallel”.

ATM: “Asynchronous Transfer Mode”, pp. 1-3, no later than 12/7/2001

This reference discusses NNIs in ATM networks. Figure 1 shows several networks connected by NNIs. This reference does not appear to the undersigned to teach access to parallel private networks as claimed.

Domestic: “Frame Relay - Domestic”, pp. 1-2, copyright date 2001

This reference discusses Qwest frame relay and NNIs. It does not appear to the undersigned to teach access to parallel networks as claimed.

InfoNow: InfoNow page, no later than 7/28/2001

This reference states: "Multiple connections to primary Internet backbones provide unparalleled service availability. In addition, our multiple-carrier voice circuits provide continuous availability for our voice enabled IVR services, and multiple frame-relay carriers provide secure access to client Intranets as required." However, it does not appear to the undersigned to teach selection between parallel networks as called for by the present application.

Smarts: "Smarts Takes On Frame Relay Correlation", one page, date may be 2001 or 1999

This reference discusses diagnosis of problems with frame relay networks. This may be relevant, for instance, to claim 21 of the present application, which requires "sensing failure of one of the parallel frame relay networks". The reference does not discuss "parallel" networks.

MICOM: "MICOM MARATHON[®] 5KT Pro", 4 pages, copyright date 1997

This reference states on page 2 that "The Marathon 5KT Pro supports up to three leased line WAN links or up to four frame relay WAN links, ... Multiple frame relay links can be configured to segment traffic for access to multiple frame relay carriers." The drawing on page 3 shows the device attached to a "Frame Relay Service". This reference does not discuss selection of one frame relay network rather than another during operation of the device, or criteria for making such a selection, and for at least those reasons it does not appear to the undersigned to teach the present invention's "packet path selector which selects between private network interfaces according to a specified criterion" (claims 1, 13; claim 19 has similar language).

Disaster Recovery I: "Disaster Recovery for Frame Relay Networks", pp. 1-10, no later than 12/7/2001

This reference discusses various options for increasing reliability in networking configurations that include a frame relay network. In particular, pages 5-7 discuss “duplicate networks” and reference is made to “multiple carrier” approaches on pages 5, 8, and 9. Page 5 notes that “Duplicate networks may require router reconfiguration to switch over when the primary network fails”, which is consistent with the discussion of prior approaches in the present application on page 3 lines 15-21. Page 5 also discusses NNIs in connection with multiple carriers, whereas the present application distinguishes between serial and parallel network arrangements. Keyword searches found no instances of “parallel” in this reference. The reference also does not appear to the undersigned to teach the present invention’s packet path selector.

Nolle: T. Nolle, “Watching Your Back”, pp. 1-3, 11/01/99

This reference discusses frame relay network outages. The first full paragraph on page 2 presents “multiple frame relay carriers” as an option. However, this reference does not appear to the undersigned to teach the present invention’s packet path selector.

Disaster Recovery II: “Disaster Recovery: Monitored Frame Relay Networks”, pp. 1-3, no later than 7/28/2001

This reference discusses ISDN as a frame relay backup; it is consistent with the prior approaches illustrated in Figure 2 of the present application. Keyword searches found no instances of “parallel” in this reference. Although the ISDN connection may be parallel to the frame relay network, access to parallel private networks as claimed is apparently not taught by this reference.

Galaxy: “Galaxy IV failure and AT&T Frame Relay outage”, pp. 1-4, 03 Jun 1998

This reference discusses a frame relay network outage. A statement under “Onus On The Customer” on page 2 refers generally to “parallel systems” (not to parallel private networks; there is no other use of “parallel”). This reference does not appear to the

undersigned to teach the present invention's packet path selector for selecting between parallel private networks as claimed.

Exodus: "World Class Global Internet Data Centers", one page, copyright date 1999-2001

This reference discusses Exodus Communications, a company discussed in the preceding **Galaxy** reference. It does not appear to the undersigned to teach the present invention's packet path selector for selecting between parallel private networks as claimed.

ISDN: "ISDN finds role as frame relay sidekick", pp. 1-2, 11/17/99

This reference discusses ISDN as a frame relay backup; it is consistent with the prior approaches illustrated in Figure 2 of the present application. A reading of the reference found no instances of "parallel" in it. Access to parallel private networks as claimed is apparently not taught by this reference.

BGP: "Border Gateway Protocol", pp. 1-5, copyright date 2001

This reference discusses Border Gateway Protocol (BGP), frame relay, multi-homing, and other subjects. The first full paragraph on page 2 notes that an Internet Service Provider can have multiple connections to the Internet backbone. However, access to parallel private networks as claimed is apparently not taught by this reference.

FAQ: "Frequently Asked Questions on Multi-homing and BGP", pp. 1-7, no later than 07-Jun-2000

This reference discusses Border Gateway Protocol (BGP), multi-homing, routing, multiple connections, and other subjects. A statement on page 2 notes that multi-homing may be done for various reasons, including redundancy; as noted on page 10 of the present application, redundancy refers to reliability, and claims 4, 16, and 19 of the present application refer expressly to reliability. However, keyword searches found no instances of

“frame relay” or “parallel” in this reference, and access to parallel private networks as claimed is apparently not taught by this reference.

NACIO: “NACIO Systems”, pp. 1-3, copyright date 1998-2001

This reference discusses fault-tolerance, redundant systems, Point-to-Point, Frame Relay, multi-homing, and other subjects. A reading of the reference found no instances of “parallel” in it. Access to parallel private networks as claimed is apparently not taught by this reference.

Multi: “Multi-Attached and Multi-Homed Dedicated Access”, pp. 1-5, no later than 12/8/2001

This reference discusses multi-attached and multi-homed access for increased reliability. Frame relay is discussed. A keyword search found one use of the word “parallel”, on page 3: “Using two parallel circuits between a customer’s network and different CLIX routers will satisfy most customers high-availability requirements. For optimum resilience, you should ensure that the two CLIX access circuits do not share any common elements (e.g. a single unprotected tail circuit, a single CLEAR Frame AXIS shelf, or a single mux card), and use separate routers for each access circuit, powered from separate protected power sources if possible.” The accompanying diagram on page 3 of the reference is reminiscent of Figure 1 of the present application; a similar but more general diagram shown on page 4 of the reference also resembles Figure 1. Load-balancing is mentioned on page 5; load-balancing is expressly called for in claims 3, 15, and 19 of the present application. But this reference does not appear to the undersigned to teach selection between parallel private networks as called for by the present invention.

Freedman: A. Freedman, "ISP Tech Talk", pp. 1-10, May 1997

This reference discusses reliability, Frame Relay, multi-homing, and other subjects. A keyword search of the reference found no instances of "parallel" in it. Access to parallel private networks as claimed does not appear to be taught by this reference.

Liao: T. Liao et al., "Using multiple links to interconnect LANs and public circuit switched data networks," *Proc. Int. Conference on Communications Systems: Towards Global Integration, Vol. 1*, Singapore, 59 November 1990, pp. 289-293

This reference discusses design of a gateway that interconnects a TCP/IP-based LAN and a public circuit switched data network using multilinks. Although it discusses use of multiple data links, the parallelism taught is apparently parallelism of multiple physical links to a single network, not parallelism of networks as claimed in the present application.

Coyotepoint: Press release from www.coyotepoint.com, September 8, 1997

This reference discusses a form of load-balancing, and the present application also refers to "load-balancing", see, e.g., claims 3, 15, 19. However, this reference does not appear to the undersigned to teach the claimed access to parallel networks.

NAT: Network Address Translation Technical Discussion, from safety.net; no later than 05/07/1999

This reference discusses parallelism in servers and a form of load-balancing, see, e.g., the paragraph on "Mux Server Mapping Mode" on page 4. But it does not appear to the undersigned to teach the claimed access to parallel networks.

Higginson: Higginson et al., "Development of Router Clusters to Provide Fast Failover in IP Networks," from www.asia-pacific.digital.com; no later than 9/29/98

This reference discusses failover, which is related to a form of reliability, and the present application also refers to "reliability", see, e.g., claims 4, 16, 19. However, this

reference does not appear to the undersigned to teach the claimed access to parallel networks.

Navpoint: Pages from www.navpoint.com; no later than 12/24/2001

This reference discusses frame relay and point-to-point connections. However, it does not appear to the undersigned to teach the claimed access to parallel networks.

Feibel: Feibel, "Internetwork Link," Novell's® Complete Encyclopedia of Networking, copyright date 1995

This reference discusses connections between networks. However, it does not appear to the undersigned to teach the claimed access to parallel networks.

Tanenbaum: Tanenbaum, Computer Networks (3rd Ed.), pp. 396-406; copyright date 1996

This reference discusses connections between networks, and ways in which networks differ from one another. Figures 5-36 and 5-37 may also be of interest. However, this reference does not appear to the undersigned to teach the claimed access to parallel networks using a packet path selector.

Wexler: Wexler, "Frame Relay and IP VPNs: Compete Or Coexist?", from www.bcr.com; July 1999

This reference discusses frame relay and VPNs. In particular, an apparent blurring of the line between the two technologies is discussed, see, e.g., page 3. It does not appear to the undersigned to teach the claimed access to parallel networks.

Conclusion

In view of the above, Assignee respectfully petitions the Office for accelerated examination of the claims. In the event of any questions, the undersigned invites a telephone call from the Office.

Dated April 21, 2003.

Enclosures
p-petn-MakeSpecial9A

CERTIFICATE OF MAILING

I hereby certify that the correspondence listed below is being deposited with the United States Postal Service as Priority Mail, postage paid, on April 21, 2003 addressed to the Commissioner for Patents, Box DAC, P.O. Box 2327, Arlington, VA 22202:

Petition for Special Examining Procedure
Postcard
Check no. 0-3297 for \$130

Respectfully submitted


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